****

**REPUBLIC OF KENYA**

**COMPETENCY BASED CURRICULUM**

**FOR**

**SPORTS INSTRUCTOR TECHNOLOGY**

**LEVEL 4**



TVET CDACC

P.O. BOX 15745-00100

NAIROBI

First published 2020

Copyright © TVET CDACC

All rights reserved. No part of this curriculum may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods without the prior written permission of the TVET CDACC, except in the case of brief quotations embodied in critical reviews and certain other non-commercial uses permitted by copyright law. For permission requests, write to the Council Secretary/CEO, at the address below:

**Council Secretary/CEO**

**TVET Curriculum Development, Assessment and Certification Council**

**P.O. Box 15745–00100**

**Nairobi, Kenya**

**Email:** [**info@tvetcdacc.go.ke**](mailto:info@tvetcdacc.go.ke)

# FOREWORD

The provision of quality education and training is fundamental to the Government’s overall strategy for social economic development. Quality education and training will contribute to achievement Kenya’s development blue print and sustainable development goals.

Reforms in the education sector are necessary for the achievement of Kenya Vision 2030 and meeting the provisions of the Constitution of Kenya 2010. The education sector had to be aligned to the Constitution and this resulted to the formulation of the Policy Framework for Reforming Education and Training (Sessional Paper No. 4 of 2016). A key feature of this policy is the radical change in the design and delivery of the TVET training. This policy document requires that training in TVET be competency based, curriculum development be industry led, certification be based on demonstration of competence and mode of delivery allows for multiple entry and exit in TVET programmes.

These reforms demand that Industry takes a leading role in curriculum development to ensure the curriculum addresses its competence needs. It is against this background that this Curriculum has been developed.

It is my conviction that this curriculum will play a great role towards development of competent human resource for the Sports Science sector’s growth and sustainable development.

**PRINCIPAL SECRETARY, VOCATIONAL AND TECHNICAL TRAINING**

**MINISTRY OF EDUCATION**

# PREFACE

Kenya Vision 2030 aims to transform the country into a newly industrializing, “middle-income country providing a high-quality life to all its citizens by the year 2030”. Kenya intends to create a globally competitive and adaptive human resource base to meet the requirements of a rapidly industrializing economy through life-long education and training. TVET has a responsibility of facilitating the process of inculcating knowledge, skills and attitudes necessary for catapulting the nation to a globally competitive country, hence the paradigm shift to embrace Competency Based Education and Training (CBET).

The Technical and Vocational Education and Training Act No. 29 of 2013 and the Sessional Paper No. 4 of 2016 on Reforming Education and Training in Kenya, emphasized the need toreform curriculum development, assessment and certification. This called for a shift to CBET to address the mismatch between skills acquired through training and skills needed by industry as well as increase the global competitiveness of Kenyan labour force.

TVET Curriculum Development, Assessment and Certification Council (TVET CDACC) in conjunction with Sports Science sector Skills Advisory Committee (SSAC), have developed this curriculum.

This curriculum has been developed following the CBET framework policy; the CBETA Standards and guidelines provided by the TVET Authority and the Kenya National Qualification framework designed by the Kenya National Qualification Authority.

This curriculum is designed and organized with an outline of learning outcomes; Suggested Methods of Instruction , training/learning resources and methods of assessing the trainee’s achievement. The curriculum is competency-based and allows multiple entry and exit to the course.

I am grateful to the Council Members, Council Secretariat, Sports Science SSAC, expert workers and all those who participated in the development of this curriculum.

**CHAIRPERSON, TVET CDACC**

# ACKNOWLEDGEMENT

This curriculum has been designed for competency-based training and has independent units of learning that allow the trainee flexibility in entry and exit. In developing the curriculum, significant involvement and support was received from various organizations.

I recognize with appreciation the role of the Sports Science sector Skills Advisory Committee (SSAC) in ensuring that competencies required by the industry are addressed in the curriculum. I also thank all stakeholders in the Sports sector for their valuable input and all those who participated in the process of developing this curriculum.

I am convinced that this curriculum will go a long way in ensuring that workers in business will acquire competencies that will enable them to perform their work more efficiently.

**COUNCIL SECRETARY/CEO**

**TVET CDACC**

**ABBREVIATIONS AND ACRONYMS**

BC Basic Competency

CR Core Competency

CU Curriculum

CC Common Competency

CBET Competency Based Education and Training

CDACC Curriculum Development Assessment and Certification Council

ICT Information Communication Technology

KCSE Kenya Certificate of Secondary Education

KNQA Kenya National Qualifications Authority

MoE Ministry of Education

OS Occupational Standard

OSHA Occupation Safety and Health Act

OSHS Occupation Safety and Health Standards

PPE Personal Protective Equipment

SSAC Sector Skills Advisory Committee

TVET Technical and Vocational Education and Training

PAPI Paper and Pencil Interviewing

CAPI Computer Assisted Personal Interviewing

GDG Focused group discussions

SD Standard deviation

DB Database

SQL Structured Query Language

**KEY TO UNIT CODE**

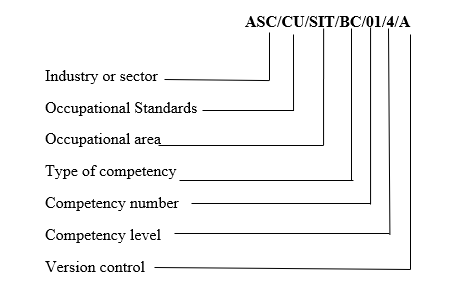


TABLE OF CONTENTS

[FOREWORD iii](#_Toc71462187)

[PREFACE iv](#_Toc71462188)

[ACKNOWLEDGEMENT v](#_Toc71462189)

[ABBREVIATIONS AND ACRONYMS vi](#_Toc71462190)

[KEY TO UNIT CODE vii](#_Toc71462191)

[COURSE OVERVIEW i](#_Toc71462192)

[BASIC UNITS OF LEARNING 1](#_Toc71462193)

[COMMUNICATION SKILLS 1](#_Toc71462194)

[NUMERACY SKILLS 4](#_Toc71462195)

[DIGITAL LITERACY 8](#_Toc71462196)

[ENTREPRENEURIAL SKILLS 10](#_Toc71462197)

[EMPLOYABILITY SKILLS 14](#_Toc71462198)

[ENVIRONMENTAL LITERACY 17](#_Toc71462199)

[OCCUPATIONAL SAFETY AND HEALTH PRACTICES 20](#_Toc71462200)

[CORE UNITS OF LEARNING 23](#_Toc71462201)

[**FOUNDATION OF EXERCISE AND SPORTS SCIENCE** 24](#_Toc71462202)

[**SCIENTIFIC PRINCIPLES I** 27](#_Toc71462203)

[**SCIENTIFIC PRINCIPLES II** 31](#_Toc71462204)

[**SPORTS NUTRITION** 36](#_Toc71462205)

[**EXERCISE AND SPORTS INJURIES** 39](#_Toc71462206)

[**EDUCATION PSYCHOLOGY** 43](#_Toc71462207)

[**EDUCATION TECHNOLOGY** 52](#_Toc71462208)

[**MEASUREMENT AND EVALUATION** 56](#_Toc71462209)

[**INSTRUCTION LAW AND ETHICS** 62](#_Toc71462210)

[**INSTRUCTION METHODS** 68](#_Toc71462211)

**COURSE OVERVIEW**

Sports Instructor Technologist Level 4 qualification consists of competencies that an individual must achieve to enable him/her to apply Sports Science skills in a work place.

The units of competency comprising Sports Instructor technologist level 4 qualifications include the following:

**BASIC UNITS OF LEARNING**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit of Learning Code** | **Unit of Learning Title** | **Duration in hours** | **Credit Factor** |
| **ASC/CU/SIT/BC/01/4/A** | Communication Skills | 20 | 2 |
| ASC/CU/SIT/BC/02/4/A | Numeracy Skills | 25 | 2.5 |
| ASC/CU/SIT/BC/03/4/A | Digital literacy | 35 | 3.5 |
| ASC/CU/SIT/BC/04/4/A | Entrepreneurial Skills | 60 | 6 |
| ASC/CU/SIT/BC/05/4/A | Employability Skills | 30 | 3 |
| ASC/CU/SIT/BC/06/4/A | Environmental Literacy | 20 | 2 |
| ASC/CU/SIT/BC/07/4/A | Occupational Safety and Health Practices | 20 | 2 |
| **TOTAL** | | **210** | **21** |

**CORE UNITS OF LEARNING**

|  |  |  |  |
| --- | --- | --- | --- |
| **Unit Code** | **Unit Title** | **Duration in hours** | **Credit Factor** |
| ASC/CU/SIT/CC/01/4/A | Foundation of Exercise and Sports Science | 40 | 4.0 |
| ASC/CU/SIT/CC/02/4/A | Scientific principles I | 50 | 5.0 |
| ASC/CU/SIT/CC/03/4/A | Scientific principles II | 50 | 5.0 |
| ASC/CU/SIT/CC/04/4/A | Exercise and Sports Nutrition | 40 | 4.0 |
| ASC/CU/SIT/CR/05/4/A | Exercise and Sports Injuries | 40 | 4.0 |
| ASC/CU/SIT/CC/06/4/A | Education psychology | 40 | 4.0 |
| ASC/CU/SIT/CC/07/4/A | Education technology | 40 | 4.0 |
| ASC/CU/SIT/CC/08/4/A | Measurement and evaluation | 40 | 4.0 |
| ASC/CU/SIT/CC/09/4/A | Instruction law and ethics | 40 | 4.0 |
| ASC/CU/SIT/CC/10/4/A | Instruction methods | 40 | 4.0 |
| ASC/CU/SIT/CR/01/4/A | Industrial Attachment | 360 | 36.0 |
| **TOTAL** | | **780** | **78.0** |
| **GRAND TOTAL** | | **990** | **99.0** |

The core units of learning are independent of each other and may be undertaken independently.

The total duration of the course is 990 hours, inclusive 360 hours of field attachment.

**Field Attachment**

It is envisaged that the trainee will have undergone a field training and assessment with a recognized sports centre/school. At least 300 hours will be spent on a supervised and assessed field attachment.

**Entry Requirements**

An individual entering this course should have any of the following minimum requirements:

1. Attained KCSE Mean Grade E or Sports Instruction Technology Certificate level 3

**Or**

1. Equivalent qualifications as determined by Kenya National Qualifications Authority (KNQA)

**Trainer qualification**

**Assessment**

The course will be assessed at two levels: Internally and Externally. Internal assessment is continuous and is conducted by the trainer who is monitored by an accredited internal verifier while external assessment is conducted by accredited external assessors appointed by TVET CDACC.

**Certification**

A candidate will be issued with a certificate of competency on demonstration of competence in a unit of competency. To attain the National Sports Instruction Technology Level 4 qualification, the candidate must demonstrate competence in all the units of competency as given in qualification pack. These certificates will be issued by TVET CDACC in conjunction with training provider.

**BASIC UNITS OF LEARNING**

# COMMUNICATION SKILLS

**UNIT CODE: ASC/CU/SIT/BC/01/4/A**

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Communication Skills

**Duration of Unit:** 20 Hours

**Unit Description**

This unit covers the competencies required demonstrate communication skills. It involves obtaining and conveying workplace information, completing relevant work-related documents, communicating information about workplace processes, leading workplace discussion and communicating workplace issues.

**Summary of Learning Outcomes**

1. Obtain and convey workplace information
2. Complete relevant work-related documents
3. Communicate information about workplace processes
4. Lead workplace discussions
5. Identify and communicate issues arising in the workplace

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Obtain and convey workplace information | * Communication process * Modes of communication * Medium of communication * Effective communication * Barriers to communication * Flow of communication * Sources of information * Types of questions * Organizational policies * Workplace etiquette * Ethical work practices in handling communication | * Interview * Third party reports |
| 1. Complete relevant work-related documents | * Types and purposes of workplace documents and forms * Methods used in filling forms and documents * Recording workplace data * Process of distributing workplace forms and documents * Report writing * Types of workplace reports | * Interview * Third party reports |
| 1. Communicate information about workplace processes | * Communication process * Modes of communication * Medium of communication * Effective communication * Barriers to communication * Flow of communication * Sources of information * Organizational policies * Organization requirements for written and electronic communication methods * Report writing * Effective questioning techniques (clarifying and probing) * Workplace etiquette * Ethical work practices in handling communication | * Interview * Portfolio |
| 1. Lead workplace discussion | * Methods of discussion e.g.   + Coordination meetings   + Toolbox discussion   + Peer-to-peer discussion * Solicitation of response | * Interview * Third party reports |
| 1. Identify and communicate issues arising in the workplace | * Identification of problems and issues * Organizing information on problems and issues * Relating problems and issues * Communication barriers affecting workplace discussions | * Interview * Portfolio |

**Suggested Methods of Instruction**

* Direct instruction
* Demonstration
* Practice assignment
* Discussion
* Role play
* Brainstorming

**Recommended Resources**

* Desktop computers/laptops
* Internet connection
* Projectors
* Telephone
* Report writing templates

# NUMERACY SKILLS

**UNIT CODE:** **ASC/CU/SIT/BC/02/4/A**

**Relationship to Occupational Standards:**

This unit addresses the Unit of Competency: Demonstrate Numeracy Skills

**Duration of Unit:** 25hours

**Unit Description**

This unit covers the competencies required to demonstrate numeracy skills. It involves identifying and using whole numbers and simple fractions, decimals and percentages for work, identifying, measuring and estimating familiar quantities for work, reading and using familiar maps, plans and diagrams for work, identifying and describing common 2D and some 3D shapes for work, constructing simple tables and graphs for work using familiar data and identifying and interpreting information in familiar tables, graphs and charts for work.

**Summary of Learning Outcomes**

1. Identify and use whole numbers and simple fractions, decimals and percentages for work
2. Identify, measure and estimate familiar quantities for work
3. Read and use familiar maps, plans and diagrams for work
4. Identify and describe common 2D and some 3D shapes for work
5. Construct simple tables and graphs for work using familiar data
6. Identify and interpret information in familiar tables, graphs and charts for work

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Identify and use whole numbers and simple fractions, decimals and percentages for work | * Whole numbers * Simple fractions * Decimals * Percentages * Sizes * Problem solving methods * Calculations using the 4 operations * Recording and communicating numerical information | * Written * Practice assignments |
| 2. Identify, measure and estimate familiar quantities for work | * Measurement information * Units of measurement * Estimate familiar and simple amounts * Selection of appropriate measuring equipment * Calculate using familiar units of measurement * Check measurements and results against estimates * Using informal and some formal mathematical and general language * Record or report results | * Written * Practice assignments |
| 3. Read and use familiar maps, plans and diagrams for work | * Maps, plans and diagrams * Locate items and places in familiar maps, plans and diagrams * Recognize common symbols and keys in familiar maps, plans and diagrams * Direction and location of objects, or route or places * Use of informal and some formal oral mathematical language and symbols | * Practical test * Written |
| 4. Identify and describe common 2D and some 3D shapes for work | * Common 2D shapes and 3D shapes * Classification of common 2D shapes and designs * Description of Use informal and some formal language to describe common two-dimensional shapes and some common three-dimensional shapes * Construction of common 2D shapes * Match common 3D shapes to their 2D sketches or nets | * Written * Practical test |
| 5. Construct simple tables and graphs for work using familiar data | * Types of graphs * Determination of data to be collected * Selection of data collection method * Collection of data * Determination of variables from the data collected * Order and collate data * Construct a table and enter data * Construct a graph using data from table * Check results * Report or discuss graph information related to work using informal and some formal mathematical and general language | * Written * Practical test |
| 6. Identify and interpret information in familiar tables, graphs and charts for work | * Tables construction and labeling * i.e. title, headings, rows and columns * Interpreting information and data in simple tables * Relaying information of relevant workplace tasks on/in a table * Identify familiar graphs and charts in familiar texts and contexts * Locate title, labels, axes, scale and key from familiar graphs and charts * Identify and interpret information and data in familiar graphs and charts * Relate information to relevant workplace tasks | * Written * Practical test |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory
* Practical demonstration of tasks by trainer
* Practice by trainees/ role play
* Discussion
* Observations and comments and corrections by trainers

**Recommended Resources**

* Computers
* Stationery
* Charts
* Video clips
* Audio tapes
* LCD projectors
* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Projectors
* Writing boards
* Mathematical tables

# DIGITAL LITERACY

**UNIT CODE: ASC/CU/SIT/BC/03/4/A**

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Digital Literacy

**Duration of Unit:** 35 hours

**Unit Description**

This unit covers the competencies required to demonstrate digital literacy in a working environment. It entails identifying computer software and hardware, applying security measures to data, hardware, software, applying computer software in solving task sand applying internet and email in communication at workplace.

**Summary of Learning Outcomes**

1. Identify computer software and hardware
2. Apply security measures to data, hardware and software
3. Apply computer software in solving tasks
4. Apply internet and email in communication at workplace

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Identify computer hardware and software | * Meaning of a computer * Functions of a computer * Components of a computer * Classification of computers | * Written tests * Oral * Observation |
| 1. Apply security measures to data, hardware and software | * Data security and control * Security threats and control measures * Types of computer crimes * Detection and protection against computer crimes | * Written tests * Oral presentation * Observation * Projects |
| 1. Apply computer software in solving tasks | * Operating system * Word processing * Spread sheets * Data base | * Oral questioning * Observation * Project |
| 1. Apply internet and email in communication at workplace | * Computer networks * Uses of internet * Electronic mail (e-mail) concept | * Oral questioning * Observation * Oral presentation * Written report |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practical assignment
* Viewing of related videos
* Project
* Group discussions

**Recommended Resources**

* Desktop computers
* Laptop computers
* Other digital devices
* Printers
* Storage devices
* Internet access
* Computer software

# ENTREPRENEURIAL SKILLS

**UNIT CODE: ASC/CU/SIT/BC/04/4/A**

**Relationship to occupational standards**

This unit addresses the Unit of Competency: Demonstrate Entrepreneurial Skills

**Duration of unit:** 60 hours

**Unit description**

This unit covers the competencies required for creating and maintaining small scale business, establishing small business customer base, managing and growing a micro/small-scale business.

**Summary of Learning Outcomes**

1. Create and maintain small scale business
2. Establish small scale business customer base
3. Manage small scale business
4. Grow/expand small scale business

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Create and maintain small scale business | * Starting a small business * Legal regulatory requirements in starting a small business * SWOT/ PESTEL analysis * Conducting market/industry survey * Generation and evaluation of business ideas * Matching competencies with business opportunities * Forms of business ownership * Location of a small business * Legal and regulatory requirement * Resources required to start a small business * Common terminologies in entrepreneurship * Entrepreneurship in national development * Self-employment * Formal and informal employment * Entrepreneurial culture * Myths associated with entrepreneurship * Types, characteristics, qualities & role of entrepreneurs * History, development and importance of entrepreneurship * Theories of entrepreneurship * Quality assurance for small businesses * Policies and procedures on occupational safety and health and environmental concerns | * Individual/group assignments * projects * Written * Oral |
| 1. Establish small scale business customer base | * Good staff/workers and customer relations * Marketing strategy * Identifying and maintain new customers and markets * Product/ service promotions * Products / services diversification * SWOT / PESTEL analysis * Conducting a business survey * Generating Business ideas * Business opportunities | * Individual/group assignments * projects * Written * Oral |
| 1. Manage small scale business | * Organization of a small business * Small business’ business plan * Marketing for small businesses * Managing finances for small business * Production/ operation process for goods/services * Small business records management * Book keeping and auditing for small businesses * Business support services * Small business resources mobilization and utilization * Basic business social responsibility * Management of small business * Word processing concepts in small business management * Computer application software * Monitoring and controlling business operations | * Oral * Individual/group assignments * projects * Written |
| 1. Grow/expand small scale business | * Methods of growing small business * Resources for growing small business * Small business growth plan * Computer software in business development * ICT and business growth | * Individual/group assignments * projects * Written |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory
* Demonstration by trainer
* Practice by trainee
* Role play
* Case study

**Recommended Resources**

* Case studies for small businesses
* Business plan templates
* Lap top/ desk top computer
* Internet
* Telephone
* Writing materials

# EMPLOYABILITY SKILLS

**UNIT CODE:** ASC/CU/SIT/BC/05/4/A

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Employability Skills

**Duration of Unit:** 30 hours

**Unit Description**

This unit covers competencies required to demonstrate employability skills. It involves conducting self-management, demonstrating critical safe work habits, demonstrating workplace learning and workplace ethics.

**Summary of Learning Outcomes**

1. Conduct self-management
2. Demonstrate critical safe work habits
3. Demonstrate workplace learning
4. Demonstrate workplace ethics

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Conduct self-management | * Self-awareness * Formulating personal vision, mission and goals * Strategies for overcoming life challenges * Emotional intelligence * Assertiveness * Expressing personal thoughts, feelings and beliefs * Developing and maintaining high self-esteem * Developing and maintaining positive self-image * Articulating ideas and aspirations * Accountability and responsibility * Good work habits * Self-awareness * Self-development * Financial literacy * Healthy lifestyle practices | * Written tests * Oral questioning * Portfolio of evidence * Third party report |
| 1. Demonstrate critical safe work habits | * Stress and stress management * Punctuality and time consciousness * Interpersonal communication * Sharing information * Leisure * Integratingpersonal objectives into organizational objectives * Resources utilization * Setting work priorities * HIV and AIDS * Drug and substance abuse * Handling emerging issues | * Written tests * Oral questioning * Portfolio of evidence * Third party report |
| 1. Demonstrate workplace learning | * Personal training needs identification and assessment * Managing own learning * Contributing to the learning community at the workplace * Cultural aspects of work * Variety of learning context * Application of learning * Safe use of technology * Identifying opportunities * Workplace innovation * Performance improvement * Handling emerging issues * Future trends and concerns in learning | * Written tests * Oral questioning * Portfolio of evidence * Third party report |
| 1. Demonstrate workplace ethics | * Meaning of ethics * Ethical perspectives * Principles of ethics * Values and beliefs * Ethical standards * Organization code of ethics * Common ethical dilemmas * Organization culture * Corruption, bribery and conflict of interest * Privacy and data protection * Diversity, harassment and mutual respect * Financial responsibility/accountability * Etiquette * Personal and professional integrity * Commitment to jurisdictional laws * Emerging issues in ethics | * Written tests * Oral questioning * Portfolio of evidence * Third party report |

**Suggested Methods of Instruction**

* Simulation/Role play
* Group Discussion
* Presentations
* Q&A
* Case studies
* Assignments

**Recommended Resources**

* Computers
* Stationery
* Charts
* Video clips
* Audio tapes
* Radio sets
* TV sets
* LCD projectors

# ENVIRONMENTAL LITERACY

**UNIT CODE: ASC/CU/SIT/BC/06/4/A**

**Relationship to Occupational Standards**

This unit addresses the Unit of Competency: Demonstrate Environmental Literacy

**Duration of Unit:** 20hours

**Unit Description**

This unit specifies the competencies required to demonstrate environmental literacy. It involves controlling environmental hazard, controlling environmental pollution, demonstrating sustainable resource use and evaluating current practices in relation to resource usage.

**Summary of Learning Outcomes**

1. Control environmental hazard
2. Control environmental pollution
3. Demonstrate sustainable use of resources
4. Evaluate current practices in relation to resource usage

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Methods of assessment** |
| 1. Control environmental hazard | * Purposes and content of Environmental Management and Coordination Act 1999 * Purposes and content of Solid Waste Act * Storage methods for environmentally hazardous materials * Disposal methods of hazardous wastes * Types and uses of PPE in line with environmental regulations * Occupational Safety and Health Standards (OSHS) | * Written tests * Oral questions * Observation of work procedures |
| 1. Control environmental Pollution | * Types of pollution * Environmental pollution control measures * Types of solid wastes * Procedures for solid waste management * Different types of noise pollution * Methods for minimizing noise pollution | * Written tests * Oral questions * Observation of work procedures * Role play |
| 1. Demonstrate sustainable resource use | * Types of resources * Techniques in measuring current usage of resources * Calculating current usage of resources * Methods for minimizing wastage * Waste management procedures * Principles of 3Rs (Reduce, Reuse, Recycle) * Methods for economizing or reducing resource consumption | * Written tests * Oral questions * Observation of work procedures |
| 1. Evaluate current practices in relation to resource usage | * Collection of information on environmental and resource efficiency systems and procedures, * Measurement and recording of current resource usage * Analysis and recording of current purchasing strategies. * Analysis of current work processes to access information and data * Identification of areas for improvement | * Written tests * Oral questions * Observation of work procedures |
| 1. Identify Environmental legislations/conventions for environmental concerns | * Environmental issues/concerns * Environmental legislations /conventions and local ordinances * Industrial standard /environmental practices * International Environmental Protocols (Montreal, Kyoto) * Features of an environmental strategy | * Written tests * Oral questions * Observation of work procedures |

**Suggested Methods of Instruction**

* Instructor led facilitation of theory
* Practical demonstration of tasks by trainer
* Practice by trainees/ role play
* Discussion
* Observations and comments and corrections by trainers

**Recommended Resources**

* Computers
* Stationery
* Charts
* Video clips
* Audio tapes
* Radio sets
* TV sets
* LCD projectors
* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Machine/equipment manufacturer’s specifications and instructions
* Personal Protective Equipment (PPE)

# OCCUPATIONAL SAFETY AND HEALTH PRACTICES

**UNIT CODE:** ASC/CU/SIT/BC/07/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Demonstrate Occupational Safety and Health Practices

**Duration of Unit:** 20 hours

**Unit Description**

This unit specifies the competencies required to practice safety and health and comply with OSH requirements relevant to work. It involves adhering to workplace procedures for hazards and risk prevention and participating in arrangements for workplace safety and health maintenance.

**Summary of Learning Outcomes**

1. Adhere to workplace procedures for hazards and risk prevention
2. Participate in arrangements for workplace safety and health maintenance

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning Outcome** | **Content** | **Suggested Assessment**  **Methods** |
| 1. Adhere to workplace procedures for hazards and risk prevention | * Arrangement of work area and items in accordance with Company housekeeping procedures * Adherence to work standards and procedures * Application of preventive and control measures, including use of safety gears/PPE * Study and apply standards and procedures for incidents and emergencies. | * Oral questions * Written tests * Portfolio of evidence * Third party report |
| 1. Participate in arrangements for workplace safety and health maintenance | * Participating in orientations on OSH requirements/regulations of tasks * Providing feedback on health, safety, and security concerns to appropriate personnel as required in a sufficiently detailed manner * Practice workplace procedures for reporting hazards, incidents, injuries and sickness * OSH requirements/ regulations and workplace safety and hazard control procedures are reviewed, and compliance reported to appropriate personnel * Identification of needed OSH-related trainings are proposed to appropriate personnel | * Oral questions * Written tests * Portfolio of evidence * Third party report |

**Suggested Methods of Instruction**

* Assigments
* Discussion
* Q&A
* Role play
* Viewing of related videos

**Recommended Resources**

* Computers
* Stationery
* Charts
* Video clips
* Audio tapes
* Radio sets
* TV sets
* LCD projectors
* Standard operating and/or other workplace procedures manuals
* Specific job procedures manuals
* Machine/equipment manufacturer’s specifications and instructions
* Personal Protective Equipment (PPE) e.g.
* Mask
* Face mask/shield
* Safety bootsn
* Safety harness
* Arm/Hand guard, gloves
* Eye protection (goggles, shield)
* Hearing protection (ear muffs, ear plugs)
* Hair Net/cap/bonnet
* Hard hat
* Face protection (mask, shield)
* Apron/Gown/coverall/jump suit
* Anti-static suits
* High-visibility reflective vest

**CORE UNITS OF LEARNING**

# FOUNDATION OF EXERCISE AND SPORTS SCIENCE

**UNIT CODE:** ASC/CU/SIT/CC/01/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Demonstrate knowledge the Foundation of Exercise and Sports Science

**Duration of Unit:** 40 Hours

**Unit Description**

This unit describes the competencies required by a sports trainer in order to apply the foundation of sports science. It involves-: Demonstrating knowledge of the history of sports science, demonstrating knowledge of different branches of sports science and their relationships, demonstrating knowledge of physical fitness components in sports science, demonstrating knowledge of sports-related fitness components, demonstrating knowledge of first aid and sports-related injuries

**Summary of Learning Outcomes**

1. Demonstrate knowledge of the history of Exercise and Sport Science
2. Demonstrate knowledge of different branches of Exercise and Sports Science and their relationships
3. Demonstrate knowledge of physical fitness components in Exercise and Sports Science
4. Demonstrate knowledge of Exercise and Sports-related fitness components
5. Demonstrate knowledge of first aid and Exercise and Sports-related injuries

**Learning Outcomes, Content and Methods of assessment**

| **Learning outcome** | **Content** | **Methods of assessment** |
| --- | --- | --- |
| * 1. Demonstrate knowledge of foundation and history of sport science | * Introduction * Foundations of sports * Sport Science in * Greece * Rome * Era of feudalism * Europe * USA * Physical fitness movement * Facilities and equipment * Physical fitness and participation in physical activities * Girls and women in sports * Persons with disabilities | * Written tests * Oral questioning * Assignments * Supervised exercises |
| * 1. Demonstrate knowledge of different *branches of sports science* and their relationships | * Sports psychology * Sports medicine * Games and sports * Motor development and learning * Sports biomechanics * Sports physiology * Sports sociology * Sports anatomy * Sports performance analysis * Sports management | * Written tests * Oral questioning * Assignments * Supervised exercises |
| * 1. Demonstrate knowledge of physical fitness components in sports science | * Cardiovascular endurance * Muscular Endurance * Strength * Flexibility * Body composition | * Assignments * Oral questioning * Supervised exercises * Written tests |
| * 1. Demonstrate knowledge of sports-related fitness components | * Speed * Power * Agility * Reaction time * Balance | * Written tests * Oral questioning * Assignments * Supervised exercises |
| * 1. Demonstrate knowledge of first aid and sports-related injuries | * Injuries * Introduction * Nose bleeding * Cuts and laceration * Fractures * Dislocations * Asphyxia * Hypothermia * Sprains, strains and tears * Contortions * Concussions * Drowning * Muscle cramps * First aids * Introduction * Scope of first aid * Safety education * Life-threatening emergencies * First aid box * Wilderness/outdoor first aid * Rescue operations, evaluation and evacuation * First aid skills |  |

**Suggested Methods of Instruction**

* Group discussions
* Demonstration by trainer
* Exercises by trainee

**Recommended Resources**

* Museums
* Gyms
* Texts
* Video
* Learning aids
* First aid box
* Artefacts

# SCIENTIFIC PRINCIPLES I

**UNIT CODE:** ASC/CU/SIT/CC/02/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Demonstrate Knowledge on Anatomy and Physiology for Sports and Exercise

**Duration of Unit:** 50 hours (2 Semesters/Terms)

**Unit Description**

This unit describes the competencies required by a sport scientist in order to apply anatomy for sports and exercise. It involves-: Demonstrating knowledge of structure and functions of Skeletal System, Muscular System, and Circulatory System Respiratory System

***NB/relate all system to exercise and sports***

**Summary of Learning Outcomes**

1. Demonstrate knowledge of structure and functions of Skeletal System
2. Demonstrate knowledge of structure and functions of Muscular System
3. Demonstrate knowledge of structure and functions of Nervous System
4. Demonstrate knowledge of structure and functions of Circulatory System
5. Demonstrate knowledge of structure and functions of Respiratory System
6. Demonstrate knowledge of structure and functions of Digestive System
7. Demonstrate knowledge of structure and functions of Renal System
8. Demonstrate knowledge of structure and functions of Immune System
9. Demonstrate knowledge of structure and functions of Endocrine System

**Learning Outcomes, Content and Methods of assessment**

| **Learning outcome** | **Content** | **Methods of assessment** |
| --- | --- | --- |
| 1. Demonstrate knowledge of structure and functions of *Skeletal System* | * Introduction * Structure of skeletal system * Axial and appendicular skeleton * Types of bones * Location of major bones * Function of skeletal system * Joints * Fixed * Slightly movable * Synovial/freely movable * Movements | * Written tests * Oral questioning * Assignments * Supervised exercises |
| 1. Demonstrate knowledge of structure and functions of Muscular System | * Muscles and functions of muscles * Types of muscle * Skeletal * Cardiac * Smooth * Fibre and types of fibres * Muscle contraction * Types of contraction * Location of major muscles in the body | * Written tests * Oral questioning * Assignments * Supervised exercises |
| 1. Demonstrate knowledge of structure and functions of nervous System | * Introduction * Structural and functional classification of the nervous system * Structure of a typical motor neuron * Overview of nerve impulses * Central nervous system * Brain * Spinal chord * Peripheral nervous system * Sympathetic and parasympathetic nervous system | * Written tests * Oral questioning * Assignments * Supervised exercises |
| 1. Demonstrate knowledge of structure and functions of cardiovascular System | * Structure of circulatory system * Structure and functions of the Heart * Structure and functions of Blood vessels * Blood flow * Blood composition * Functions of cardio vascular system * Thermoregulation * Functions of blood * Cardiac cycle * The heart and the nervous system | * Assignments * Oral questioning * Supervised exercises * Written tests |
| 1. Demonstrate knowledge of structure and functions of Respiratory System | * Structure of respiratory system * Nasal cavity * Epiglottis * Pharynx * Larynx * Trachea * Bronchi * Bronchioles * Lungs * Diaphragm * Intercostal muscles * Functions of respiratory system * Transport * Mechanism of breathing * Respiratory volumes * Control of breathing | * Written tests * Oral questioning * Assignments * Supervised exercises |
| 1. Demonstrate knowledge of structure and functions of digestive System | * Structure of digestive system * Mouth * Oesophagus * Stomach * Small intestine * Large intestine. * Liver * Pancreas * Functions of the digestive system * Enzyme * Digestion and/or absorption of proteins, carbohydrates, fats, mineral and vitamins * Energy metabolism | * Written tests * Oral questioning * Assignments * Supervised exercises |
| 1. Demonstrate knowledge of structure and functions of renal and excretory System | * Structure of the kidney * Functions of the nephron * Urine formation and characteristics * Fluid electrolyte balance | * Written tests * Oral questioning * Assignments * Supervised exercises |
| 1. Demonstrate knowledge of structure and functions of immune System | * Introduction * Parts of a lymphatics system * Lymphatic vessels * Lymphatic node * Body defences * 1st line * 2nd line * 3rd line * Immunology and sports | * Written tests * Oral questioning * Assignments * Supervised exercises |
| 1. Demonstrate knowledge of structure and functions of endocrine System | * Introduction * Major endocrine organs * Major hormones in sports | * Written tests * Oral questioning * Assignments * Supervised exercises |

**Suggested Methods of Instruction**

* Group discussions
* Demonstration by trainer
* Exercises by trainee

**Recommended Resources**

* + Human skeleton
  + Biological lab
  + Teaching aids
  + Computer
  + Internet
  + Stationary

# SCIENTIFIC PRINCIPLES II

**UNIT CODE:** ASC/CU/SIT/CC/03/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Apply scientific principles

**Duration of Unit: 5**0 hours

**Unit Description**

This unit describes the competencies required by a sports trainer in order to apply sports and exercise physiology. It involves Demonstrate immediate and long-term knowledge on adaptations of the skeletal system to exercise, the muscular system to exercise, nervous system to exercise, the cardiovascular system to exercise, the respiratory system to exercise, of digestive to exercise, the renal system to exercise, immune system to exercise, endocrine to exercise

**Summary of Learning Outcomes**

Demonstrating immediate and long-term knowledge on adaptations of:

1. Skeletal system to exercise
2. Muscular system to exercise
3. Nervous system to exercise
4. Cardiovascular system to exercise
5. Respiratory system to exercise
6. Digestive to exercise
7. Renal system to exercise
8. Immune system to exercise
9. Endocrine to exercise

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| Learning outcome | Content | Methods of assessment |
| * + - 1. Demonstrate immediate and long-term knowledge on adaptations of the skeletal system to exercise | * Aerobic, anaerobic & strength training adaptations * Skeletal adaptations * Mineralization (Calcium) * Joints * Ligament | * Written tests * Oral questioning * Assignments * Supervised exercises |
| * + - 1. Demonstrate immediate and long-term knowledge on adaptations of the muscular system to exercise | * Aerobic, anaerobic & strength training adaptations * Muscular adaptations * Hypertrophy * Myoglobin stores * Mitochondria * Glycogen storage * Pliability of muscles * Tendon strength * Muscle fibre capacity and   Distribution  Glycolytic and aerobic enzymes  Muscle contraction   * Fatigue * Recovery | * Written tests * Oral questioning * Assignments * Supervised exercises |
| * + - 1. Demonstrate immediate and long-term knowledge on adaptations of the nervous system to exercise | * Aerobic, anaerobic & strength training adaptations * Neuromuscular adaptations * Neural pathways * Neural control * Motor units * Muscle spindles * The transmission rate of nervous * Golgi tendon organ * Neuromuscular fatigue | * Assignments * Oral questioning * Supervised exercises * Written tests |
| * + - 1. Demonstrate immediate and long-term knowledge on adaptations of the cardiovascular system to exercise | * Aerobic, anaerobic & strength training adaptations * Cardiovascular responses * Heart rate * Stroke volume * Cardiac output * Blood flow * Blood pressure * Thermoregulation * Nervous system * Starlings law * Cardiovascular adaptations * Cardiac hypertrophy * Stroke volume * Cardiac output * Heart rate * Blood volume * Capillarization | * Assignments * Oral questioning * Supervised exercises * Written tests |
| * + - 1. Demonstrate acute and chronic knowledge on adaptations of the respiratory system to exercise | * Aerobic, anaerobic & strength training adaptations * Respiratory responses * Breathing rate * Tidal volume * Valsalva manoeuvre * Minute ventilation * Respiratory muscles * Resting lung volume * Exercise lung volumes * Intercostal muscles * Oxygen diffusion rate * lactic thresholds * Oxygen dissociation curve * Effect of pH * Effect of temperature * Recovery * EPOC * Fast components * Slow components | * Assignments * Oral questioning * Supervised exercises * Written tests |
| * + - 1. Demonstrate immediate and long-term knowledge on adaptations of digestive to exercise | * Aerobic, anaerobic & strength training adaptations * Energy system responses * ATP production * Immediate energy system * Long term system * Short term energy system * Mitochondria * Krebs cycle * Electron transport chain * Energy transfer in the body | * Assignments * Oral questioning * Supervised exercises * Written tests |
| * + - 1. Demonstrate immediate and long-term knowledge on adaptations of renal system to exercise | * Aerobic, anaerobic & strength training adaptations * Renal system reposes * Acid-base balance * Urine and water balance | * Assignments * Oral questioning * Supervised exercises * Written tests |
| * + - 1. Demonstrate immediate and long-term knowledge on adaptations of the immune system to exercise | * Aerobic, anaerobic & strength training adaptations * Effects of moderate exercise training on the immune system and the risk of infection. * An acute bout of intense and prolonged (>90 minutes) exercise impact on the immune function and the risk of infection * Exercise in environmental extremes (heat, cold, and high altitude) influence immune function. * Guidelines for exercise when you have a cold. | * Assignments * Oral questioning * Supervised exercises * Written tests |
| * + - 1. Demonstrate immediate and long-term knowledge on adaptations of endocrine to exercise | * Aerobic, anaerobic & strength training adaptations * Changes that occur to hormones due to exercise and their consequent effect on performance and physical activity: * Growth hormone * Testosterone * Adrenocorticotropic hormones * Gonadotropic hormones * Antidiuretic hormone * Thyroid hormones * Adrenal hormones * Insulin * Glucagon * Diabetes and exercise | * Assignments * Oral questioning * Supervised exercises  1. Written tests |

**Suggested Methods of Instruction**

* Group discussions
* Demonstration by trainer
* Exercises by trainee

**Recommended Resources**

* Heart rate monitors
* Blood pressure monitors
* Biochemistry analyser
* Spirometer
* Electrocardiograph
* Electromyography
* Urine analysers
* Computers with an internet connection
* Datasets
* Projector
* Statistical Software
* Whiteboard
* Whiteboard marker

# SPORTS NUTRITION

**UNIT CODE:** ASC/CU/SIT/CC/04/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Demonstrate Knowledge on Sports Nutrition

**Duration of Unit:** 40 hours

**Unit Description**

This unit describes the competencies required by a sports trainer in order to apply sports nutrition. It involves demonstrating knowledge of nutrition and digestion, energy intake and expenditure in sports performance, hydration and sports performance and diet planning.

**Summary of Learning Outcomes**

1. Demonstrate knowledge of nutrition and digestion
2. Demonstrate knowledge of energy utilization and performance
3. Demonstrate knowledge of hydration for health and sports performance
4. Demonstrate knowledge on sport’s diet planning for health and selected sports

**Learning Outcomes, Content and Methods of assessment**

|  |  |  |
| --- | --- | --- |
| **Learning outcome** | **Content** | **Methods of assessment** |
| 1. Demonstrate knowledge of nutrition and digestion | * Introduction * Macronutrients * Micronutrients * Fibre * Sports nutritional requirements * Common terminologies * Recommended Dietary Allowance (RDA) * Optimal level * Safe intake * EAR * Structure of the digestive system * Functions of the digestive system * Digestion * Absorption * Excretion * Kidneys | * Written tests * Oral questioning * Assignments * Supervised exercises |
| 1. Demonstrate knowledge of energy utilization and performance | * Energy * Measures of energy * Sources of energy * Measuring requirement * Body composition * Lean body mass * Percentage of body mass * Skinfold analysis * Bioelectrical impedance analysis * Hydro densitometry * Bodyweight * Direct and indirect calorimetry * Energy balance * Basal metabolism   Age  Gender  Climate  Physical activity | * Written tests * Oral questioning * Assignments * Supervised exercises |
| 1. Demonstrate knowledge of hydration for health and sports performance | * Hydration * Hyperhydration * Hypohydration * Super hydration * Signs and symptoms * Dehydration * Fluid intake * Sources and types of fluids * Effects of fluids on sport performance | 1. Written tests 2. Oral questioning 3. Assignments 4. Supervised exercises |
| 1. Demonstrate knowledge on sport’s diet planning for health and selected sports | * Diet   Balanced diet   * Activities and their dietary plan * Diet Timing * Diet planning * Assessment of needs * Nutrition * Food groups | * Assignments * Oral questioning * Supervised exercises * Written tests |

**Suggested Methods of Instruction**

* Group discussions
* Demonstration by trainer
* Exercises by trainee
* Use of teaching aids

**Recommended Resources**

* Computer
* Internet
* Food samples
* Notes

# EXERCISE AND SPORTS INJURIES

**UNIT CODE:** ASC/CU/SIT/CR/01/4/A

**Relationship to Occupational Standards**

This unit addresses the unit of competency: Demonstrate Knowledge on Management Sports Injuries

**Duration of Unit:** 40 hours

**Unit Description**

This unit describes the competencies required by a sports trainer in order to manage sports injuries. It involves: identifying common sports injuries, sports injury diagnosis, managing sports injuries, preventing sports injuries

**Summary of Learning Outcomes**

1. Introduction to Sports Injuries
2. Apply first aid skills
3. Diagnose/Identify exercise and sports injuries
4. Rehabilitate exercise and sports injuries
5. Perform Injury prevention programs

**Learning Outcomes, Content and Methods of assessment**

| **Learning Outcome** | **Content** | **Methods of assessment** |
| --- | --- | --- |
| * + - * 1. **Introduction to Sports Injuries** | * Mechanism and aetiologies of sports injuries * Sports injuries locations   + Shoulder   + Elbow   + hand   + Vertebral   + Hip   + Knee   + Ankle | * Written test * Observation * Third-party report * Oral questions * Interviews |
| * + - * 1. **Apply First aid skills** | Definitions   * Injuries to muscles: * Strain injuries * Hamstring * Quadriceps contusion * Calf strain * Groin strain * Rotator cuff tears * Rupture   Contusions.  Joint injuries:   * Strains * Sprains * Fractures * Dislocations   Other parts:   * Shoulder impingement * Shin splints * Ligament tears * Hip flexor strain * Acl tear * Concussion * Groin pull * Sciatica * Golf elbow * Patella femoral syndrome   First aid treatment steps:   * Assess the situation * Put casualty to rest * Diagnose the injury * Give first aid * Refer to medical care * Aid * Save life * Reduce pain   First aid:   * Mobilizing * Bandaging * Massage * Reassuring * Hydration * Transportation | * Written test * Observation * Third-party report * Oral questions * Interviews |
| * + - * 1. **Diagnose/Identify sport Injury** | * Evaluation procedures * history * Physical examination * Range of motion testing * Strength testing * Clinical tests | * Written test * Observation * Third-party report * Oral questioning * Interviews |
| * + - * 1. **Rehabilitate exercise and sport injuries** | * + Creating a healing environment   + Science of rehabilitation   + Immediate management * Rest, Ice, comprehension and Evaluation (RICE) * Pain relief strategies * Equipment for acute treatment * Urgent conditions * Treatment after 48 hours * Rest * Manual manipulation * Exercise rehabilitation * Heat treatment * Whirlpools * Hydrocollator packs * Contrasts baths * Heat retainers * Ultrasound * Phonophoresis * Electrical stimulation * TENS * Acupuncture * Support bandages * Knee braces * Ankle braces * Elbow braces * Shoulder braces * Hand a wrist brace * Taping  Medication * Ointments * Return to sports protocols | * + Written test   + Observation   + Third-party report   + Oral questioning   + Interviews |
| * + - * 1. **Perform injury prevention** | * + Sports preventive equipment   + Preventive bracing and taping   + General injury prevention programs   + Sports specific injury prevention programs | * Written test * Observation * Third-party report * Oral questioning * Interviews |

**Suggested Methods of Delivery**

* Projects
* Demonstration by trainer
* Practice by the trainee
* Discussions
* Direct instruction

**Recommended Resources**

* Human model
* TENS machine
* Ultrasound machine
* Ice and heat packs
* Different types of tapes
* Different types of braces
* Dry needling and acupuncture
* Massage oil
* Ointments
* Medications
* Computer
* Software
* Printer

# EDUCATION PSYCHOLOGY

ASC/CU/FI/CC/06/4/A

**Relationship to occupational standards.**

This unit addresses the unit of competency: Apply education psychology.

**Duration of unit:** 40 hours

**Unit description:**

This unit describes the competencies required by a sport scientist and a sports trainer in order to apply education psychology in sports. It involves goals of education psychology, human growth and development, characteristics of human behavior, principles and theories of learning and their application in a learning set up.

**Summary of learning outcomes:**

1. Demonstrate knowledge of goals of education psychology
2. Demonstrate knowledge of human growth and development
3. Demonstrate knowledge of personality behaviour development
4. Demonstrate knowledge of principles and theories of learning

**Learning outcomes, content and Methods of assessment.**

|  |  |  |
| --- | --- | --- |
| **Learning outcome** | **Content** | **Methods of assessment** |
| 1. Goals of education psychology | **Introduction and definitions**  **Key items of psychology:**   * Science * Behaviour * Mental process   **Goals:**   * Describe * Predict * Understand * Influence   **Branches of psychology.**  **Broad branches:**   * Basic(experimental) * Applied psychology.   -clinical psychology  - counselling psychology  -industrial psychology  -developmental psychology  -sports psychology  -learning psychology  -educational psychology  **Foundation of human behaviour:**   * Environmental * Social * Cultural * Economic * Political * Biological (age, sex) * Bio social * Psychological * Genetics * Creativity   **Classification/types of human behaviour:**   * Optimistic * Pessimistic * Trusting * Envious   **Main aspects of human behaviour:**   * Personality * Interest * Attitude * Emotions * Wishes * Prejudice * Stereotype * Thinking and reasoning * Frustration and adjustment * Deviant behaviour   **Characteristics of human behaviour:**   * Influences * Complexity * Individual differences * Similarities * Purposeful or goal directed * It’s changeable * It’s stable (not always) * It’s integrated   **Importance of education psychology.**   * Theories and principles * Understanding behaviour of learner * Appreciation of individual differences * Understand learner needs * Learning process appreciation * Making choices * Set realistic goals | * Practical exercises * Oral questioning * Written test * Learner portfolio of evidence |
| 1. demonstrate knowledge of human growth and development | **Human growth and development:**   * Cephalo caudal principle * Proximal distal principle * Orthogenetic principle   **Principle:**   * Continuity * Gradual * Sequential * Development rate varies from person to person * From general to specific * Correlation of traits * Heredity and environment * Predictability   **Cognitive development:**   * Definitions * Theories of cognitive development * Piaget and bruner * Implications of the theories of learning * Challenges of adolescence and interventions * Drug and substance * Life styles * Nutrition   **Language development:**   * Uses of language * Factors that influence language development * Language implications to learning * Creativity and learning * Street languages * Role of play * Enhancing creativity   **Intelligence:**   * Definition and introduction * Factors influencing development of intelligence * Heredity * Nutrition * Geographical * Social status   **Motivation:**   * Definitions and types * Intrinsic * Extrinsic * Maslow’s hierarchy of needs * How to enhance motivation | * Practical exercises * Oral questioning * Written tests * Learner portfolio of evidence |
| **3.** Demonstrate knowledge of factors that affect learning. | **Factors that affect learning:**   * Intelligence * Personality * Gender * Previous achievement * Social economic status * Educational resources * Attitude * Health of the learner   **Personality development:**   * Introduction * Factors influencing it   **Theories of personality development:**   * Humanistic * Trait * Introversion * Extraversion * Psycho analytic (psycho sexual theories   **Defence mechanisms:**   * Why it occurs * Types * How to avoid | * Practical exercises * Oral questioning * Written test * Learner portfolio of evidence |
| 1. demostrate knowledge of principles and theories of learning | **Definitions.**  **Major principles of learning:**  **-**effect  -practice/exercise  -readiness  -freedom  -primacy  -intensity  -recency  -requirement  **Theories of learning:**   * Classical conditioning * Operant conditioning * Social learning theory * Decay theory   **Exceptional children**   * Types * Catering for exceptional children | * Practical exercises * Oral questioning * Written test * Learner portfolio of evidence |
| 1. Apply learning theories | Change of attitude  Reinforcement:   * Negative * Positive * Behaviour modification * Guidance and counselling * Display of positive qualifies * Positive attitudes * Incorporation of demonstratives, experiments etc. * Memory conditioning * In-house motivation * Discipline and class management * Guidance principles for team discipline | * Practical exercises * Oral questioning * Written test * Learner portfolio of evidence |
| 1. Demonstrate knowledge of sports psychological & sociological aspects in fitness and sports | Psychology   * Concepts of psychology related to learning and coaching of fitness and sports skills.   Overview  Effects on fitness industry  Effects on sports industry   * Role of psychology in fitness and sports   Overview  Effects on fitness industry  Effects on sports industry   * Theories of personalities   Overview  Effects on fitness industry  Effects on sports industry   * Theories of self-image in choice and participation.   Overview  Effects on fitness industry  Effects on sports industry   * Effects of: * Anxiety   Overview  Effects on fitness performance  Effects on sports performance   * Stress   Overview  Effects on fitness performance  Effects on sports performance   * Motivation on fitness and   Overview  Effects on fitness performance  Effects on sports performance  Sociology   * Theories of functional approach   Overview  Effects on fitness industry  Effects on sports industry   * Conflict theory   Overview  Effects on fitness industry  Effects on sports industry   * Critical theory and symbolic interactions.   Overview  Effects on fitness industry  Effects on sports industry   * Concepts of culture   Overview  Effects on fitness industry  Effects on sports industry   * Concept of socialization   Overview  Effects on fitness industry  Effects on sports industry   * Concept of economy   Overview  Effects on fitness industry  Effects on sports industry   * Concept of religion   Overview  Effects on fitness industry  Effects on sports industry   * Concepts of mass media   Overview  Effects on fitness industry  Effects on sports industry   * Concept of politics. performance.   Overview  Effects on fitness industry  Effects on sports industry | * Practical exercises * Oral questioning * Written test * Learner portfolio of evidence |

**Suggested Methods of Instruction**

* Demonstration by trainee
* Practice by trainee
* Direct instruction
* Discussions
* Projects
* Excursions

**Recommended resources:**

* Computer
* Internet connection
* Instruction room
* Camera
* Stationary.

# EDUCATION TECHNOLOGY

**UNIT CODE:** ASC/CU/FI/CC/07/4/A

**RELATIONSHIP TO OCCUPATIONAL STANDARDS:**

**This unit addresses the unit of competency:** Apply Education Technology.

**Duration of unit:** 40 hours

**Unit description:**

This unit describes the competencies required by a sports scientist and sports trainer in order to apply education technology. It involves demonstrating knowledge of three-dimensional objects, print, electronic reprographic, electronic media and projection equipment.

**Summary of learning outcomes:**

* Demonstrate knowledge of instructional communication
* Demonstrate knowledge of three-dimension objects
* Demonstrate knowledge of projection equipment
* Demonstrate knowledge of media resources and graphic materials

**Learning outcomes, content and suggested assessment method.**

|  |  |  |
| --- | --- | --- |
| **Learning outcome** | **Content** | **Suggested assessment method** |
| 1. Demonstrate knowledge of instructional media | **Introduction.**  **Importance of education technology:**   * Individualized instruction * Quality improvement * Equalizing education opportunities. * Learning becomes immediate   **Tasks of education technology:**   * Preservation * Advancing knowledge * Transmission of access   **Models of communication**   * Linear * Interactive (participants encoding, decoding channels) * Transactional (participant encoding, decoding channel)   **Education technology includes means of instruction i.e.**   * Discovery * Group activities * Distance education * Programmed instruction * Technology based instruction (computer, internet) * Simulations * Classroom * Field   **Barriers to communication:**   * Physical * Psychological * Systematic * Attitudinal * Physiological * language | * Practical exercises * Oral questioning * Written test * Learner portfolio of evidence |
| 2.Demonstrate knowledge of 3-dimension media objects | **Introduction and definitions.**   * Media * Materials * Technology   **Media objects:**   * Realia * Selection * Use * Safety   **Specimens:**   * Local * International * Modified real things(models) * Practical task of learners using 3-dimension objects | * Practical exercises * Oral questioning * Written test * Learner portfolio of evidence |
| 1. Demonstrate knowledge of use of protection equipment**.** | * Definitions * Opaque projector * Slide projector * Film strip projector * Overhead projector * L.C.D projector * Practical task of using i.c.t integrated instruction | * Practical exercises * Oral questioning * Written test * Learner portfolio of evidence |
| 4.Demonstrate knowledge of use of electronic media and graphic resources. | **Electronic media:**   * Radio * Pod casts * Telecasts * Education films and videos   **Reprographic equipment:**   * Photocopies * Duplicators * Printers * Binders * Stitchers   **Print media:**   * Text books * Hand outs * Open education * Resources   **Graphic materials:**   * Graphs * Charts * Maps/globes * Cartoons * Diagrams * Posters * Practiced session for each media | * Practical exercises * Oral questioning * Written tests * Learner portfolio of evidence |

**Suggested method of delivery:**

* Projects
* Demonstration by trainer
* Practice by trainee
* Discussions
* Direct instruction

**Recommended resources and equipment:**

* Computer
* Internet connection
* Reprographic room/facility
* Television
* Drawing material

# MEASUREMENT AND EVALUATION

**UNIT CODE:** ASC/CU/FI/CC/08/4/A

**Relationship to occupational standards:**

This unit addresses the unit of competency apply measurements and evaluation.

**Duration of unit:** 40 hours

**Unit description:**

This unit describes the competencies required by a sports scientist and sport instructor in order to apply measurements and evaluation.it involves types and roles of evaluation, development of an fitness or sports specific evaluation tool, test planning, application of elementary statistics and management of examinations.

**Summary of learning outcomes:**

1. Demonstrate knowledge of types and roles of evaluation.
2. Demonstrate knowledge of planning a test.
3. Apply elementary statistics.
4. Knowledge of sports specific tests, measurements and evaluations,
5. Manage examinations.

**Learning outcomes, content and Methods of assessment.**

|  |  |  |
| --- | --- | --- |
| **Learning outcome.** | **Content.** | **Methods of assessment.** |
| 1.demonstrate knowledge of types and role of evaluation and blooms taxonomy | **Introduction to meaning of measurement, test and evaluation**  **Types of evaluation:**   * Summative * Formative * Process * Impact   **Stages of evaluation:**   * Planning * Development * Implementation * Action and improvement   **Types of tests:**   * Diagnostic * Formative * Interim * Summative * Placement tests * Progress or achievement tests * Proficiency tests * Internal * External * Objective tests * Subjective tests   **Role of evaluation:**   * Diagnosis * Placement * Progress * Proficiency   **Blooms taxonomy:**   * Learning objectives in relation to evaluation * Cognitive domain * Affective domain * Sensory domain   **The psycho motor domain (action based)**   * Perception * Set physical, emotional, me-ntal * Guided response * Mechanism * Complex overt response * Adaptation * Origination | * Practical exercises * Oral questioning * Written tests * Learner portfolio of evidence |
| **2.Demonstrate knowledge of planning a test** | **Planning a test.**  **Qualities of a good test**:   * Measure objective * Consistent result/score * Fair or bias free * Easy to administer * Interpret   **Test validity:**   * Usefulness * Link to reality   **Types of validity:**   * Face valid**i**ty * Content validity * Construct validity * Criterion validity   **Reliability methods:**   * Test-retest * Split-half reliability * Inter-rater reliability | * Practical exercises * Oral questioning * Written tests * Learner portfolio of evidence |
| **3.Apply elementary statistics.** | **Importance of statistics**  **Measures of dispersion:**   * Range * Quartiles * Range deciles * Percentiles   **Derived and standard scores:**   * Z scores * T scores * Stanine scores   Interpterion of sample sports and fitness data | * Practical exercises * Oral questioning * Written test * Learner portfolio of evidence |
| Knowledge of sports specific tests, measurements and evaluations, | * Cardiovascular fitness tests: * YMCA step test, * Bruce protocol, * Multistage fitness test * VO2 max gas analysis test * 1-mile walk test * 1km run tests * Coopers’ tests * Astrand fitness test * Muscular strength test: * 1RM bench press/squat * Hand grip and leg dynamometer. * Muscular endurance test: * **1 min push up** * **1 min sit up** * **Pull up tests** * **Plank test** * **Wall sit test,** * Flexibility tests * **Sit and reach test** * **Goniometer tests** * **Joint specific ROM test** * Body composition: * **Bio electric impedance machine** * **Skin fold calipers** * **Hydrostatic weighing** * **Bod pod** * **MRI** * Power tests: * **Vertical jump test** * **Broad jump test** * **Wingate test** * **Medicine ball throw test** * Agility test * **T test** * **Illinois agility test** * **505 agility test** * **Side step test,** * **5-10-5 agility shuttle** * Speed test: * **10m, 35m, 40 sprint tests,** * **Sports specific speed tests** * Co-ordination test: * **Wall toss test** * **plate tapping test,** * Balance tests: * **Y-balance test** * **flamingo balance test** * **one leg stand** | * Practical exercises * Oral questioning * Written test * Learner portfolio of evidence |
| **4.manage examinations** | **Test moderation:**   * Linkage to objectives * Item clarity * Coverage * weight * language   **practical:**   * skills * time * complexity * applicability * safety * gender   **test administration:**   * environment * time * arrangement * materials * supervision   **marking:**   * marking schemes * scoring items * accuracy   **recording and reporting:**   * test construction project * content analysis * test objectives * test items * marking scheme | * practical exercises * oral questioning * written test * learner portfolio of evidence |
|  |  |  |

**Suggested method of delivery:**

* projects
* demonstration by trainer
* discussion
* direct instruction

**recommended resources:**

* stationery
* instruction room
* computer
* internet
* notes and samples
* printer

# INSTRUCTION LAW AND ETHICS

**UNIT CODE:** ASC/CU/FI/CC/09/4/A

**Relationship to occupational standards.**

**This unit addresses the unit of competency:** Apply instruction law and ethics

**Duration of** unit**:** 40 hours

**Unit description:**

This unit described the competencies required by a sports scientist and sports trainer in order to apply instruction law and ethics.it involves the legal system, contractual obligations, instruction environment, the children and young person’s act, education act, torts crime and instructor ethics and responsibilities.

**Summary of learning outcomes:**

1. Demonstrate knowledge of the of Kenyan Law System
2. Demonstrate knowledge of **t**he Law of Contracts in fitness and Sports
3. Demonstrate knowledge of Arbitration of Sports Disputes in Kenya
4. Demonstrate knowledge of anti-doping law
5. Demonstrate knowledge of Professional Ethics in fitness and Sports
6. Demonstrate knowledge of Sports insurance

**Learning outcomes, content and Methods of assessment.**

|  |  |  |
| --- | --- | --- |
| Learning outcome | Content | Methods of assessment |
| * + - 1. Demonstrate knowledge of the of Kenyan Law System | * Sports act   + Overview   + Implications on the sports industry   + Implications on the fitness industry   + Registration and sports registrar * Children and young person act   + Overview   + Implications on the sports industry   + Implications on the fitness industry * Persons living with disability act   + Overview   + Implications on the sports industry   + Implications on the fitness industry |  |
| * + - 1. Demonstrate knowledge of the Law of Contracts in fitness and Sports | * Contracts in sports and fitness   + Define a contract   + Different types of sports contracts   + Elements of a sports contract * Evaluation of the elements necessary for a contract to be binding and enforceable   + Elements of a legally binding documents   + Different elements that are enforceable   + Different elements that are not enforces * Designing different forms of contracts in sports and fitness   + Sports contract design elements   + Drafting content in different parts of a contract   + Drafting and entire contract |  |
| * + - 1. Demonstrate knowledge of Arbitration of Sports Disputes in Kenya | * The constitution of the sports dispute’s tribunal   + Overview of the sports tribunal   + Members of the sports tribunal   + Judicial service commission   + Decision made by national sports organizations that mandate the sports tribunal   + Case study: FKF, KSF and KRU * The jurisdiction of the sports dispute’s tribunal   + Section 58   + Different jurisdictions   + Appeal process |  |
| * + - 1. Demonstrate knowledge of anti-doping law | * Role of ADAK   + Define ADAK   + Role of ADAK   + Responsibility of ADAK   + ADAK administrative structure   + WADA link * Prohibited substances as per the procedure   + Prohibited at all times   + Prohibited during competition   + Prohibited in particular sports * Protocol for testing of drugs as per the procedure   + Types of testing   + Athlete selection   + Athlete interviews   + Sample collection   + Sample handling   + Sample testing   + Sample storage * Penalties of doping as per the procedure   + Tribunal process   + Different outcomes: Ban for specific period or for life, fine and imprisonment   + Therapeutic exemption      * Side effects of doping   + Side effects of most common drugs (Anabolic steroids, growth hormone, EPO, diuretic) |  |
| * + - 1. Demonstrate knowledge of Professional Ethics in fitness and Sports | * The ethics in sports and fitness   + Professionalism   + Values   + Character   + Sportsmanship   + Corruption * The key elements of sportsmanship as per the procedure   + Diversity   + Remuneration   + Athlete behaviors,   + Gender   + Discrimination,   + Performance enhancement   + Fair play that sports managers have to confront. * Evaluation of emerging ethical issues in sports and fitness   + Confidentiality   + Data sharing   + Media   + Corruption   + Gender based issues   + Equipment and technology   + Doping |  |
| * + - 1. Demonstrate knowledge of Sports insurance | * Purpose of insurance   + Different forms of insurance   + Different types of cover   + Reason teams and fitness institutions take insurance cover.   + Major insurance covers in Kenya * Benefits, claims and compensation of insurance   + Benefits   + Claims process   + Compensation process * Scope of the different insurance covers in sports   + Equipment   + Personal effects   + 3rd party liability   + Body injuries   + Public liability |  |

**Suggested Methods of Instruction**

* Projects
* Demonstration by trainer
* Practice by trainee
* Discussions
* Direct instruction

**Recommended resources and equipment:**

* Textbooks
* Manuals
* Code of regulations
* Internet
* Computer
* Writing material
* Printer
* Notes
* Instruction room
* **Acts of parliament:**
* Education Act
* Sports Act
* Children and young person’s Act
* Transport Act

# INSTRUCTION METHODS

**UNIT CODE:** ASC/CU/FI/CC/10/4/A

**Relationship to occupational standards:**

This unit addresses the unit of competency: Apply instructional methods

**Duration of unit:** 40 hours

**Unit description:**

This unit describes the competencies required by a sports scientist and sports instructor in order to apply instruction methods.it involves goals of instruction, seasonal/course instruction plans, session plans, practical instruction, theory instruction, evaluation, improvisation and communication skills.

**Summary of learning outcomes:**

1. Demonstrate knowledge of sources of instructional goals.
2. Demonstrate knowledge of preparing seasonal/course plans
3. Demonstrate knowledge of preparing session theory and practical instruction plans
4. Conduct a practical instruction session
5. Conduct a theory instruction session
6. Conduct a practical evaluation session
7. Demonstrate knowledge of improvisation of instruction aids
8. Demonstrate knowledge of self-presentation and communication skills
9. Demonstrate knowledge of types of instruction methods

**Learning outcomes, content and Methods of assessment.**

|  |  |  |
| --- | --- | --- |
| **Learning outcome** | **Content** | **Methods of assessment** |
| * + 1. Demonstrate knowledge of sources of types of sports and fitness instruction methods. | **Introduction**  **Categories of objectives in sports and fitness:**   * Cognitive * Affective * Pscho motor   **Sources of instructional goals in sports and fitness:**   * National goals and values * The curriculum * The syllabus * Establishment * Individual goals   **Interpretation of course curriculum in sports and fitness:**   * Course contents * Course objectives * Duration of coverage/term * Degree of difficulty * Entry behaviour * Duration of instruction sessions | * Practical exercises * Oral questioning * Written tests * Learner portfolio of evidence |
| 2. Demonstrate knowledge of sources of instructional goals in sports and fitness | **Differences between seasonal and sessional plans in sports and fitness**  **Contents of seasonal plans in sports and fitness:**   * Week * Content * Objective * Application activities * Remarks/evaluation   **Stating objectives in sports and fitness:**   * Specificity * Measurable/behavioural * Achievable * realistic * Time bound   **Seasonal plans**  **Factors to consider in sports and fitness:**   * Entry behaviour * Content * Sequence * Time allocated * Resources available * Number of learners * Season   **Evaluation in sports and fitness:**   * Session evaluation * Skill evaluation * Feedback   **Evaluation comments:**   * Effective * Not effective * Remedy date | * Practical exercises * Written tests * Oral questioning * Learner portfolio of evidence |
| **3.** Demonstrate knowledge of preparing seasonal/term sports and fitness plans. | **Theory session plan format and contents in sports and fitness:**   * Week * Group name-instructor * Session number * Date * Member of learners * Actual time and date * Subtopic-topic * Objectives * Aids * Steps * Conclusion * Remarks   **Practical plan format and contents in sports and fitness:**   * Group name/level of learners * Instructor * Week * Remarks * Session number * Actual time * Aids   **Content:**   * Topic * Sub-topic * Objectives * Skill of the session   **Presentation:**  Stage 1-introductory  Stage 2-compensatory/developmental  Stage 3- instruction activity  Stage 4-group activity  Stage 5-simulation game  Stage 6-final activity  feedback | * Practical exercises * Written tests * Oral questioning * Learner portfolio of evidence |
| **4.** Demonstrate knowledge of preparing session (daily and weekly) theory and practical sports and fitness instruction plan. | **Instruction contents checklist in sports and fitness:**   * Sub topic skills selection * Seasonal scheme * Session plan * Learning aids * Work schedule   **Learner management in sports and fitness**   * Grouping of learners * Resource allocation * Skill demonstration * Skill practice * Skill application * Skill evaluation * Skill feedback * Discipline * Handling interruptions   **Safety in sports and fitness:**   * Spacing of learner * Safety of learning aids * Attending to injury * Injury prevention instructions * Organization of learners * Sequence of exercises * Special needs persons attendance * Sick learner management   **Time management in sports and fitness:**   * Warm up time * Compensatory/developmental time * Skill demonstration time * Skill practice and application time   **Self-presentation in sports and fitness:**   * Dressing * Speech * Confidence * Proximity to learners * Gestures and movement * Stimulus variation * Feedback | * Practical exercises * Oral questioning * Written tests * Learner portfolio of evidence |
| 5. conduct a sports and fitness practical instruction session | **Instruction contents in sports and fitness:**   * Rules of a sport * New concept * Team building * Legal issues   **Learner management in sports and fitness:**   * Sitting arrangement * Resource distribution * Grouping of learners * Handling interruption * Discipline   **Masterly of contents:**   * Relevant examples * Choice of topic * Sequence * Pace * Time management | * Practical exercises * Written tests * Oral questioning * Learner portfolio of evidence |
| 6. conduct a theory sports and fitness instruction session | * **Choice of skill in sports and fitness** * **Choice of venue in sports and fitness** * **Choice of evaluation aids in sports and fitness** * **Grouping of learners in sports and fitness**   **Grading system scoring in sports and fitness:**   * Approach * Focus * Execution * Accuracy * Attitude * Recovery   **Process:**   * Individual skills demonstration * Teamwork skills * Competition * Individual vs. individual * Intra * Extra * Prepare and evaluation tool | * Practical exercises * Oral questioning * Written tests * Learner portfolio of evidence |
| 7. Conduct a sports and fitness practical skills evaluation and review session | **Sports learning aids:**   * Balls * Athletics field events items * Pools * Referee equipment * Player equipment * Recording   **Education technology instruction materials in sports and fitness:**   * Display boards * 3 dimensional objects * Graphic materials * Projection equipment’s * Printed media * Reprographic equipment’s * Electronic media | * Practical exercises * Written tests * Oral questioning * Learner portfolio of evidence |
| **8.** Demonstrate knowledge of improvisation of sports and fitness instruction aids | **Self-presentation in sports and fitness:**   * Dressing * Poise * Voice * Movement * Clarity of speech   **Communication in sports and fitness:**   * Public speaking * Importance * Speech preparation * Overcoming stage fright   **Persuasion in sports and fitness:**   * Purpose * Goals of persuasion * Methods of persuasion * Application of persuasion * Process of communication * Essentials of effective communication * Barriers to effective communication * Forms of communication   **Meetings in sports and fitness:**   * Definitions * Purpose of meeting * Meeting documents * Notice * Agenda * Minutes   **Roles of:**   * Chairman * Secretary * Other members   **Interviews in sports and fitness:**   * Definitions * Types * Preparation of interview by:  1. Interviewer 2. Interviewee  * Conduct an interview by:  1. Interviewer 2. interviewee | * Practice exercises * Written tests * Oral questioning * Learner portfolio of evidence |
| **9.** Demonstrate knowledge of improvisation of sports and fitness instruction aids | Instruction methods in sports and fitness  Open learning/distance education in sports and fitness  Programmed instruction in sports and fitness  Classroom instruction in sports and fitness  Tele conferencing in sports and fitness  Class instruction methods in sports and fitness:   * Direct * Indirect * Combined | * Practice exercise * Oral questioning * Written tests * Learner portfolio of evidence |

**Suggested Methods of Instruction**

* Projects
* Demonstration by trainer
* Practice by trainee
* Discussions
* Direct instruction

**Recommended resources and equipment’s:**

* Instruction room
* Games and sports facilities and equipment
* Stationary
* Internet
* Computer